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II. A Letter of Dr Wallis to Dr Tyson, concerning Mens feeding on Flesh.

Oxford, Feb. 3. 1⁶²²~~762~~

S I R,

THough I have not had the opportunity of Acquaintance with you, I desire you will give me leave to suggest to you a Question or two in your Profession, relating to Comparative Anatomy.

You may perhaps censure me, as an Interloper in your Faculty : But while I was (at *Cambridge*) but a young Student in Philosophy, I look'd upon the *Medicine pars Physica*, as a piece of *Natural Philosophy* ; and did accordingly apply my self to it, (though without any design of practising the *Pharmaceutick*,) and to *Anatomy* in particular. And Dr *Glisson* (who was then our Publick Professor of Physick, and under whom I kept, as they call it, a *Physick Act*) hath since told me, that I was the *First* of all his Sons, that did (in a publick Disputation) maintain Dr *Harvey's Circulation of the Blood*, in the year 1641, (when it was but a New Doctrine) being then able to trace it through the Arteries and Veins of the whole Body, better than now I can, (having since forgotten much of the particularities thereof, upon my diverting to other Studies.) Which I hope you will admit as an Excuse for my Interloping.

Now, I remember to have read (about fifty years ago) in one of *Gassendus's* Printed Epistles, (printed among some previous peices of his, before the body of of his Works was published,) a suggestion of his,

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which he seems to espouse as his own opinion,) as if he thought it not (originally) Natural for *Man* to feed on *Flesh* ; though by long usage (at least ever since the Flood) we have been accustomed to it, and it is now familiar to us ; but rather, on Plants, Roots, Fruits, Grain, &c.

And I take it to be the Opinion of many Divines, that *before the Flood*, Men did not use to feed on *Flesh*, because of what we have in *Gen. 9. 3.* where God says to *Noah*, (after the Flood,) *Every moving thing that liveth, shall be meat for you, even as the green Herb have I given you all things* : Compared with *Gen. 1. 29.* where God says to *Adam*, *I have given you every Herb bearing Seed, and every Tree in the which is the fruit of a Tree yielding seed, to you it shall be for Meat* ; but without any intimation of his feeding on the *Flesh of Animals*, which seems to be an insinuation to that purpose, and is commonly taken so to be.

Yet, I confess, I have some doubt therein remaining, seeing that we find, very early, that *Abel* was a *Keeper of Sheep*, as well as *Cain* a *Tiller of the Ground*, both Employments seeming equally in order to their Food and Sustenance. And their first *Cloathings*, were the *Skins* of Animals. It may perhaps be thought, that these Animals were *Slain* for *Sacrifice*, and the *Sheep* fed only for that purpose, but even their Sacrifices seem to have been offered but as a Portion (or First-fruits) of things appointed for Food ; and that as *Cain* was not to Sacrifice the whole fruit of his *Tillage*, so neither was *Abel*, the whole product of his *Sheep*, but the best thereof (the Firstlings of his Flocks, and the fat thereof) and reserving the rest for his own use. And it cannot seem likely, that God would give to *Noah* after the flood, a greater Dominion over other Animals, than had been given to *Adam*, in *Paradise before the fall*. And I should then consider this permission to *Noah*, not as contra-dictinct from that to *Adam*,

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(as of what is now permitted, which before were not;) but rather as Introductive of the *Prohibition* which presently follows, to wit, Though he might eat Flesh, even as the green Herb, (so far as it might be wholesome food:) yet, *not with the Blood thereof*; that is, not *Raw flesh*; not *carnem crudum*, or *carnem cum cruore*. I add also, that the same Rule is given to other Animals, *Gen. 1. 30.* as is to man, at ver. 29. *I have given them every green herb for meat*: Yet there are, we know, many Carnivorous Animals, without any further Permission that we know of.

But (without disputing it as a point in Divinity, Whether men, before the Flood, did or might feed on Flesh, supposing it to be wholesome nourishment;) I shall consider it (with *Gassendus*) as a Question in Natural Philosophy, whether it be proper Food for Man.

The consideration insisted upon by *Gassendus*, is from the structure of the *Teeth*, (and, as I remember this only) that our Teeth are mostly either *Incisores*, or *Molitores*; not such as (in Carnivorous Animals) are proper to *tear Flesh*, except only 4, which are called *Canini*: As if Nature had rather furnished our Teeth, for *Cutting* Herbs, Roots, &c. and for bruising Grain, Nuts, and other hard Fruits, than for *Tearing* Flesh, as Carnivorous Animals do, with their Claws, and sharp Teeth. And, even when we feed on Flesh, it is not without a preparative *Coxion*, by boiling, roasting, baking, &c. And, even so, we forbid it to persons in a Fever, or other like distempers, as of too hard digestion. And *Children* (before their Palats are vitiated by custom) are more fond of *Fruits* than of *Flesh-meat*. And their breeding *Worms* is wont to be imputed to their *too early* feeding on *Flesh*.

This ingenious Conjecture of *Gassendus*, did presently suggest to me another speculation, which seems not less considerable.

There is in Swine, Sheep, Oxen, and, I think, in most Quadrupeds that feed on Herbs or Plants, a long *Colon*,

with a *Cæcum* at the upper end of it, or somewhat equivalent, which conveys the Food, by a long and large progress, from the Stomach downwards, in order to a slower passage, and longer stay in the Intestines : But in Dogs, of several kinds, and I suppose, in Foxes, Wolves, and divers other Animals which are Carnivorous, such *Colon* is wanting ; and, instead thereof, a more short and slender gut, and quicker passage through the Intestines.

That which I would propose hereupon is, that you would please to consider, as your leisure and opportunity permit, whether it do generally hold, or how far forth, that Animals which are not Carnivorous, have such *Colon*, or somewhat equivalent ; and, that those which are Carnivorous have it not. For if so, it seems to be a great Indication, that Nature, which may be reasonably presum'd to adapt the Intestines to the different sorts of aliments that are to pass through them, doth accordingly inform us, to what Animals Flesh is proper aliment, and to what it is not ; and that from thence we may judge more solidly, than from the structure of the Teeth only, whether or no Flesh were designed as proper food for Man.

Now it is well known, that in *Man*, and, I presume, in the Ape, Monkey, Baboon, &c. such *Colon* is very remarkable ; and the like in your ingenious and accurate dissection of your *Homo Sylvestris*, which may therefore be thence conjectured, not to belong naturally to the Carnivorous Tribes, if that rule hold. 'Tis true, that the *Cæcum* in Man is very small, and seems to be of little or no use : But in a *Fœtus*, it is in proportion much larger than in persons adult. And it's possible, that our Customary change of Dyet, as we grow up, from what originally would be more natural, may occasion its shrinking into this contracted posture.

But I add this also, that *Man's* being indu'd with *Reason*, doth supply the want of many things, which,
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to other Animals may be needful. Man is not covered with such quantity of Hair or Feathers all over his Body, which to other Animals serve for Cloaths; but can, by his use of Reason, supply himself with Cloaths suitable to every Climate, and different Seasons. He is not furnished with Claws, Hoofs, Horns, &c. which serve for *Arms* to other Animals, but can, by the use of his Reason, supply himself with Weapons, and other Instruments for different occasions, to much better advantage. And, in the present case, though *raw Flesh* be not proper, as 'tis to some other Animals, he can by Preparative Coctions, and other Expedients, render it more agreeable. Nor is he wholly destitute of *Dentes Canini*; but is indeed furnished with all sorts of Teeth, for all sorts of wholesome Food.

I take the Sheep, the Goat, the Swine, the Ox, the Horse, the Ass, the Camel, the Elephant, the Hart, the Hare, the Rabbit, the Mouse, &c. not to be carnivorous; but the Dog, the Wolf, the Fox, the Cat, the Lion, the Leopard, the Tiger, &c. to be naturally carnivorous, which of all these have, or have not the *Colon*, or what other distinctive mark may be observed between these different Tribes of Animals, I think may deserve a serious consideration.

I submit the whole to your Enquiry, who have more opportunity, by your Experience and Conversation, to judge of it, than I can pretend to have.

There is another Point, which (if I have not already trespassed too far) I had thoughts of proposing to you, about the structure of the *Ear*. But I shall omit that at present (that I be not at once too tedious) and beg your pardon for having trespassed so far. Resting

Yours to serve you,

John Wallis.

*The Answer of Dr Tyson to the foregoing Letter
of Dr Wallis, concerning Man's feeding on
Flesh.*

London, Jan. 16. 1703.

S I R,

BEfore I return you my Answer to your obliging Letter, I must beg Pardon that I have deferred it so long : And do assure you, it was not for want of a just Respect and Esteem (which all the Learned World deservedly have had for so long a time of your great worth) that occasioned this Delay : But other affairs, which it were needless to trouble you with. I do now give you my hearty Thanks for the honour you have done me therein : And our whole Faculty is no less obliged to you, for your so early defending so momentous a Doctrine, as that of the *Circulation of the Blood*, which, for some time afterwards was so warmly opposed, both by our own Countrymen and Foreigners. I doubt not, had you continued these Studies, the force of so great a *Genius* would have made as great discoveries, as that you then defended ; and since have done in the *Mathematicks*, whereby you would have demonstrated many important truths in our Faculty, which now are received only as meer conjectures.

The Argument you propose, from the Conformation of the *Intestines*, why *Man* should not be *Carnivorous*, seems far more Rational than that which *Gassendus* urges, from the structure of the *Teeth*. Though it must be owned, there is nothing he hath omitted, that could have been said on that subject, to favour it. I shall beg leave to give you my thoughts freely on this occasion;

sion : And, if in my Answer some things may seem *pariter*, or not exactly adapted to the question in hand ; if otherwise they may not be unuseful, I hope they will not be unacceptable to you.

But, before I come more particularly to consider your *Hypothesis*, give me leave to remark, That, had *Man* been design'd by Nature not to have been a *Carnivorous Animal*, no doubt there would have been observed, in some part of the World, Men which did not at all feed upon Flesh. But since no History (as I know of) furnishes us with such an instance, I cannot but think what hath been done universally by the whole *Species*, must be *Natural* to them. What the *Pythagoreans* did, in *Abstaining from Flesh*, was upon the notion of a *μετεμύχουσις*, or *Transmigration of Souls*, a mistake in their Philosophy, and not a Law of Nature. And, though in some Countries Men feed more freely on Flesh, in others more sparingly, this is owing to their own choice, from the Advantage they find thereby. Nature having given Mankind *Reason*, he can, or ought to elect what food he finds most agreeable to him, in the Climate he lives in ; and is not determin'd to any one sort, but has liberty to all. And 'tis as probable, that the *Ante-diluvial* World had so likewise. Wherefore I shall wholly acquiesce in your determination of this point, and am fully satisfied with the Reasons you give for it.

We shall therefore now, as you direct, consider it as a Question in *Natural Philosophy* ; Whether from the Observation of the structure of the Parts in *Man*, we can find reason to think Nature did, or did not, assign him to be *Carnivorous*. For I am of *Gassendus* his opinion, *Licet ex conformatione Partium Corporis Humani, conjecturas desumere ad Functiones mere Naturales*. For, all the Knowledge we have of the *Uses* of the Parts in Animal Bodies, is by observing Nature's wonderful contrivance in the formation of them ; who most wisely
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adapts them to the *Uses* they are designed for. Not because they are casually so and so formed, are they necessarily put to such and such uses : But therefore they are so contrived, that they may perform such Offices in the Oeconomy of Animal Bodies, as Nature intended them for. *Longe proinde facessat illa Empedoclis, Epicuri, aliorumque Opinio, sc. Membra Animalium non esse facta propter Usum ; sed, Membris ita casu factis, & coalescentibus, ipsorum usum Accomodatione Experientiaq; varia adinventum,* saith the same *Gassendus*. And there are several remarkable Instances I have given in my late Treatise of the *Homo Sylvestris*, that sufficiently confutes such *Unphilosophical Atheists*.

I come therefore now more closely to our Business. Since you have so fairly represented *Gassendus* his Opinion and Argument from the structure of the *Teeth*, why *Man* should not be designed by Nature to be *Carnivorous* ; and have likewise sufficiently, I think, answered his Reasons ; I shall wholly pass that over at present : And shall only consider the Observation you have made of the different Formation of the *Intestines* in Carnivorous Animals, from those that are to be met with in such as do not feed upon Flesh, but other food. And indeed this seems to me to be of far greater weight, and to carry more strength in it, than any thing I have met with before. And all the Instances you give are very True.

We shall therefore first of all observe, That the *Ductus Alimentalis* (for so I call the *Gula*, the *Stomach*, and *Intestines* ; all which make but one continued *Canalis* or *Ductus* ;) This *Ductus*, I say, is properly the true *Characteristick* of an Animal, or *Proprium quarto modo*. For there is no *Animal* but hath such a *Ductus* ; and whatsoever hath such a *Ductus*, may properly enough be ranged under the *Classis* of *Animals*. *Plants* receive their Nourishment by numerous Fibres of their Roots, but
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have no Common *Receptacle* for the Digesting the Food received, or *Vent* for carrying off the Recrements: But in all, even the lowest degree of Animal Life, we may observe a *Stomach* and *Intestines*; even where we cannot perceive the least Formation of any *Organ* of the *Senses*, unless that common one of *Tactus*; as in an *Oyster*. Where also we may observe a sensible *Muscular Motion*, or Contraction; though it would be difficult to assign what *Part* should be reckoned the *Brain*, or *Medulla Spinalis*, from whence the *Nerves* arise that give it so strong a motion.

Now this *Ductus* being so Principal a *Part* in an Animal, and its *Use* being for the Receiving and Digesting the *Food*, and Distributing the *Chyle*; 'tis reasonable to suppose, that, according to the difference of the Food, the structure of the *Organ* should be also Different; or, where the *Organ* was the same, there the *Use* was the same too, for the Receiving, Digesting and Distributing the same sort of *Food*. Man therefore having these Parts formed, not like Carnivorous Animals, as you well observe; but more resembling those that live on Herbs, Roots, Fruits, &c. it may seem reasonable to conclude, that Nature never designed him to live on Flesh; But, that the Wantonness of his Appetite, and a depraved custome, had inured him to it. For, as *Cassendus* remarks in the same *Epistle* I have so often quoted, (viz. *Epist. Jo. Bapt. Melmont. operum Tom. 6. pag. 19.*) Custome may make that seem Natural to us, which Nature never intended. As he instances in a *Lamb* that was bred on Ship-board, which refused the green Pasture of the Fields, for the Diet it was formerly used to. And I have often seen here in *London* (and it being a thing so unusual, I take leave to mention it) a *Horse*, that, with a great deal of pleasure, would eat *Oysters*, scratching them, shell and all, between his Teeth, and swallowing them; And this he took to by

accident, being left at a Tavern door, where stood a Tub of Oysters: And since hath frequently done it, whenever they were offered him. Now *Gassendus* observes, that *Children* (from whom he thinks we may better take the *Instincts* of Nature, than from our Appetites when depraved by Custom) are much fonder of *Fruit* than of any *Flesh* that is offered them; and therefore he supposes it more Natural to them.

The *Instance* you give, wherein the structure of the *Intestines* of Carnivorous Animals is different from that in Men, is, that the former want a *Colon*; whereas in Men there is a very large one, which is not to be observed but in such Animals as live upon Fruits, Roots, Herbs, &c. What therefore you propose to me, is to consider, *Whether it does generally hold (or how far forth) that Animals that are not Carnivorous have such a Colon, (or somewhat equivalent) and those that are Carnivorous have it not.*

I shall begin with those *Animals* that are *Carnivorous*, and have *no Colon*, or large *Cæcum*. For though they may have the *Appendicula Vermiformis* (as some Anatomists call it) yet if that is not extended or filled with the *fæces*, which the other Guts contain, I think it not properly to be esteemed as a distinct Gut, or to come into that number, since here it does not perform the office of a Gut, in containing the Food or Excrement. So, in a Man, in Dogs, and other Animals, when it is thus contracted, I exclude it out of the number of the *Intestines*, though by use and custom (but I see no reason for it) 'tis commonly reckoned one of the *Intestina crassa*.

Animals therefore that have *no Colon*, or large *Cæcum*, though some of them have this *Appendicula Vermiformis*, and are *Carnivorous*, I reckon.

1. The *Dog-kind*; under which, beside their own *species*, may be included the *Fox*, the *Wolf*, the *Coati Mondî*, the *Badger*, the *Otter*, &c.

2. The

2. The *Vermin-kind* ; as the *Weefel*, the *Fitchet*, the *Polecat*, the *Martin*, &c. Both these kinds have a Bone in the *Penis* ; have no *Colon* or *Cæcum* ; some have the *Appendicula Vermiformis* ; and all are *Carnivorous*.

3. The *Cat-kind* ; to which may be reduced, besides their own *Species*, the *Lyon*, the *Tyger*, the *Leopard*, the *Lynx*, the *Catamountain*, &c. 'Tis true, the *French Memoirs for the History of Animals*, tells us, that a *Lyon* has a *Colon* 18 inches long, and an *Appendicula Vermiformis* 3 inches ; and that in a *Lyones's* the *Colon* was two foot, and the *Cæcum* two inches long. Now I question whether we may properly call this a *Colon* or no : For tho the *Gut* about this place may be more extended than in others, yet not having those *Ligaments* whereby the *Gut* is corrugated into *Cells*, as in a *Humane Body*, I think strictly it does not deserve that name. So in a *Cat*, the *Intestine*, at the place of the *Colon*, is larger, but, for the same reason, shall not call it a *Colon*. And though a *Cat* has a small Projection of the *Gut*, which may be called a *Cæcum*, because it contains *feces* ; yet, since 'tis so very short, we will not insist on it.

4. A *Boar* hath no *Colon* or *Cæcum*.

5. A *Mole*, which feeds on *Worms* and *Insects*, has no *Colon* or *Cæcum*.

In the next place we will consider those *Animals* that are *not Carnivorous*, but live upon Herbs, Fruits, Roots, &c. all which have a *Colon*, or *Cæcum*, or both ; For, as to your *Query*, I think it much the same, whether they have either one of these only, or both ; provided that the Capacity of the *Gut* there, be large and extended, and do contain *feces*. I will enumerate first those *Animals* that have both a *Colon* and a *Cæcum*, or at least a *Colon*. As

1. The *Horse-kind* ; in which may be included the *Ass*, the *Mule*, &c. which have a large *Colon* and *Cæcum*.

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2. The *Elephant* hath a great *Colon* and *Cæcum*.
3. The *Dromedary* and *Camel*, a long *Colon*.
4. The *Swine-kind*, whose *Species* is numerous, have a large *Cæcum* and *Colon*.
5. The *Guiny-pig*, a *Colon* and *Cæcum*.
6. The *Castor*, or *Beaver*, has a large *cellulated Colon* and *Cæcum*.
7. The *Hare-kind*, has a large *Colon* and *Cæcum*. The *Cæcum* in the *Rabbit* is very long, and in the middle, a *cochlear valve*.
8. The *Ape* and *Monkey-kind*, have a *cellulated Colon*, and short *Cæcum*.

Now there are several Animals that have a large *Cæcum* and no *Colon*, and these too are not *carnivorous*, but live upon *Grass*, *Fruits*, *Roots*, &c. as

1. The *Neat-kind*, as the *Oxe*, the *Barbary Cow*, &c.
2. The *Sheep-kind*, which is numerous.
3. The *Stag-kind*, to which may be referred, the *Elk*, the *Rain-deer*, the *Stag of Canada*, &c.
4. The *Goat-kind*.
5. The *Gazella* or *Antelope*.
6. The *Squirrel-kind*.
7. The *Rat-kind*.

By all which Lists, you may plainly perceive, what good grounds you have for forming your notion ; since there are so many Animals that are *carnivorous*, that have no *Colon* or *Cæcum* at all ; and, on the other hand, how vast a number are there that are *not carnivorous*, that have either a *Colon* or *Cæcum*, or both.

But notwithstanding all this, we may be mistaken in the Conclusion we may be apt to draw from hence : and may as well argue, that because the *Neat-kind*, the *Stag-kind*, the *Goat-kind*, and the *Sheep-kind*, that live on *Herbage*, have *four stomachs*, therefore those that have not four stomachs, were not design'd by Nature to be

be *Granivorous*. Now the *Horſe-kind*, the *Hare-kind*, &c. have but one ſtomach, and yet their Food is Graſs. And the caſe is here the more remarkable, becauſe the ſtomach is a part more principally concerned in digeſting the Food. The *Inteſtines* are for ſeparating the *Chyle* and carrying off the *Fæces*. Yet we obſerve even in Animals, that live on the ſame ſort of Food, that their ſtomachs are very different. One would therefore be more apt to think, that for digeſting the variety of Food, and what is of a different nature, that the *Organ* that is to perform it, ſhould be different too. Yet we find that the ſtomachs of Animals that live upon *Fleſh*, of others that live upon *Fruits*, and others that live upon *Graſs*, &c. to be much alike; that 'twould be difficult to aſſign any difference between them. If therefore we cannot make a concluſion from the ſtructure of the ſtomach, what food is moſt natural to an Animal, much leſs one would think from the *Colon* or the *Cæcum*; thoſe parts of the *Ductus Alimentalis* that are remote from the ſtomach; and being ſo, ſeem rather as a *Cloaca*, for the reception of the *Fæces*, than otherwiſe, of any great concern in digeſting the food, or diſtributing the *chyle*.

It would be infinite ſhould I expatiate upon Nature's great *Variety*, in the formation of the ſtructure of this *Ductus Alimentalis* in different Animals; and even where we may obſerve much the ſame ſort of food, yet we do not always find the ſame ſtructure, though her Intendment be the ſame, in digeſting the Food, diſtributing the *Chyle*, and ejecting the *Fæces* in all of them. But herein ſhe ſhews her great Wiſdom, in attaining the ſame end, different ways. Had chance any concern herein, we ſhould not obſerve that conſtant regularity in the ſame *ſpecies*, nor variety in different, where the action is ſo much the ſame. But here perhaps you will ſay, I begin to Interlope; I ſhall therefore now draw toward a concluſion.

Since

Since *Man* therefore hath all manner of *Teeth*, fit for preparation of all sorts of *Food*, before it be convey'd to the *Stomach* ; I should rather think, that *Nature* did intend he should live upon *all* ; or at least is so Bountiful as not to deny him any, or stint him to one sort only. So in like manner, since the *Organ* here in *Man*, is fitly adapted for Digesting all sorts of *Food*, I should rather incline to conclude, that therefore *Nature* intended all sorts for him : Which *God Almighty* assures us he did, in the Text you have quoted, *Gen. 9. v. 3. Every moving thing that liveth shall be meat for you, even as the green Herb have I given you all things.*

But perhaps you may expect I should give you some Instances in *Brutes*, where it doth not hold, that all *Carnivorous* Animals have no *Colon* or *Cæcum*, though, as to *Man*, the case may be different. Now the *Carigueya* or *Opossum* (whose *Anatome* I have given in *Philosoph. Transf. No. 239*) had a long *Colon*, though not *cellulated*, and a large *Cæcum*, that received all the *Fæces* as they pass down ; Yet this Animal feeds on *Poultry* and *Birds*. And I have a Male *Opossum* now by me, that feeds on nothing but *Flesh*. On the other hand, the *Hedge-hog* or *Urchin*, that hath no *Colon* or *Cæcum*, and therefore, by your rule, should be *Carnivorous*, feeds on *Roots*, *Fruits*, *Herbs*, &c. and not on *Flesh*. *Hogs* likewise, that have both a *Colon* and *Cæcum*, will feed upon *Flesh* greedily enough, when they can meet with it ; though their ordinary Food be of another kind. And a *Rat* and *Mouse*, that have a large *Cæcum*, but no *Colon*, feed upon *Bacon*, as well as *Bread* and *Cheese*. But, if what *Ælian* tells us (*Hist. de Animal. lib. 17. cap. 45.*) can be relied upon, you have an instance in the *Neat-kind* also. For he assures us, Ἀγριοί τε τοὶ δὲ ἀγροῖαν τῶν ζῶων οἱ τῶν λιθέων ταῦροι, καὶ καλὶ μὲν οἱ σαρκοφάγοι. So likewise in the same Book, cap. 25. he mentions *Horses* and *Sheep* that fed upon *Fish*. But these stories, sup-

suppose, he hath taken up from the *Indian Historians* ; whose Credit I have sufficiently examined in my *Discourse concerning the Pygmies of the Ancients* ; and shall therefore lay no stress upon them. Your *Observation* therefore as to *Brutes*, though it may hold for the most part true, yet it is not Universal. And, as all other Rules, may have some Exception. I am, Sir, with the greatest Respect,

Your most Obedient Humble Servant,

Edward Tyfon.

A second Letter of Dr Wallis to Dr Tyfon, on the same subject.

Oxford, Jan. 23. 1701.

S I R,

I Received (some days ago) your Obliging Letter, (in Answer to mine about *νεσωρζυλα*, or *Feeding on Flesh* ;) and Read it with great *Content*. I should (with more earnestness) beg your pardon, for having given you the trouble of so Elaborate and Judicious a Discourse, if I did not think I have served the Publick therein ; and that it may give as ample satisfaction to the Learned World (if you will permit it to be published) as it hath done to me.

I am not fond of advancing a *New Hypothesis*, contrary to the common sense of mankind. I did but suggest, to your consideration, a matter of Fact ; without being Positive, what *Conclusion* to infer from it. And I should not have ventured so far, if *Gassendus* had not first broke the Ice ; upon a Notion not much more considerable than that of mine. Wherein you have furnished.

nished me with a great number of Instances, beyond those few I could suggest, or could expect from any other hand.

Upon the whole matter, I think your sentiments to be much the same with mine. I am inclined to think, That all Nations (as well before as since the Deluge) have used to *feed on Flesh*. Which is a strong Presumption (as you well observe) that to feed on *Flesh (duly prepared)* is not wholly *Unnatural* for Mankind. On the other hand; I believe you think (as I do) that *Raw Flesh* is not a *Natural Food* for our Bodies. I do not know that any Nation have (of choice) used to feed on *Raw Flesh*; unless in cases of *Extremity*, or when they have not the Convenience of *Preparing* it by previous *Cocktion*, or somewhat equivalent. (For I put a great difference between *Raw Flesh* (which is the common Food of what we call *Carnivorous Animals*,) and *Flesh duly prepared* for our Food.) If any there be that (of choice) feed on *Raw Flesh*, I look upon it as a *Case Anomalous*; like that of the *Lamb* mentioned by *Gassendus*; and the *Horse* (you mention) that *Eats Oysters*. I may add, the *Rat* eating *Bacon*, for want of other Food, (which yet is not quite void of *Cocktion*;) and the *Swine* sometimes eating *Poultry*. Which latter, I do not take to be purely *Natural*; but rather the effect of an *Appetite Depraved* by Custom; because much of the *Hog-wash* we give to *Swine*, ariseth from the *Cocktion* of *Flesh* for our own use; which doth inure the *Swine* (a Voracious Animal) to the *Taste of Flesh*, and makes it familiar to them. But *Flesh, duly prepared for our Food*, I look upon as a thing very different from *Raw Flesh*, and which may be proper Food for Man; if (and so far as) it agrees with our *Health*: (which caution is to be observed, as to other Food, as well as *Flesh*.) And this I refer to the care of the *Physician* and the *Apothecary*, rather than the *Cook* and the *Confectioner*:

fectioner : For these do oft comply with the *Wantonness* of the *Palate*, rather than the *Health* of the *Body*.

I leave it to you to consider, from what *Reason*, and for what *Use*, the passage of *Flesh* through the *Ductus Alimentalis*, should (ordinarily) be more *Quick*, and that of *Herbs* more *Slow* ; (For that seems to be the cause, the *Colon* making the Way *Longer*, and the Passage *Slower* ;) and, in what Degree it is so. I say *Ordinarily* ; because, in case of *Catharticks* (or what is equivalent) the speed is quickened.

And, again ; When as Nature seems to have (originally) designed, in Man, a large *Cæcum*, as in some other Animals, (and which, if I mistake not, is, in the *Fœtus*, larger, in proportion to the rest of the Intestines, than in persons Adult,) How it comes to pass that it is now of little or no use ; but shrinks up into an *Appendicula Vermiformis* ; Whether or no this may partly proceed from our Feeding so much on *Flesh* ; which will not admit so great a *Remora*, as a large *Cæcum* may occasion in other Animals.

I conclude, with hearty Thanks for your great Pains ; And am,

S I R,

Your very humble Servant,
John Wallis.